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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,192	06/26/2000	THOMAS JUNG	SPM-290-A	9266

7590

04/16/2002

ANDREW R BASILE  
YOUNG & BASILE  
3001 W BIG BEAVER ROAD  
SUITE 624  
TROY, MI 48084

EXAMINER
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MARKHAM, WESLEY D

ART UNIT	PAPER NUMBER
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1762

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DATE MAILED: 04/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/529,192

Applicant(s)

JUNG ET AL.

Examiner

Wesley D Markham

Art Unit

1762

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 08 April 2002 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY [check either a) or b)]**

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.  
b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.  
2. ☒ The proposed amendment(s) will not be entered because:  
(a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ they raise the issue of new matter (see Note below);  
(c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: see attached advisory action.

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.  
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.  
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_

Claim(s) objected to: \_\_\_\_\_

Claim(s) rejected: 1 and 3-22

Claim(s) withdrawn from consideration: \_\_\_\_\_

8. ☐ The proposed drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.  
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_.  
10. ☐ Other: \_\_\_\_\_

**DETAILED ACTION / ADVISORY ACTION**

***Response to Amendment***

1. Acknowledgement is made of applicant's proposed amendment C, filed as paper #12 on April 8, 2002, in which the applicant proposed to amend independent Claims 1 and 14 and cancel Claims 10 and 11. However, this amendment has not been entered because it raises new issues that would require further searching and consideration. Specifically, applicant's proposed amended independent Claims 1 and 14 would now require that the substrate surfaces are treated by a hollow-cathode glow discharge which is activated only by a DC voltage, a pulsed DC voltage, or a low-, intermediate-, or high-frequency AC voltage. As this limitation has not previously been present in the claims, inclusion of the limitation into independent Claims 1 and 14 would require further searching and consideration, and therefore the applicant's proposed amendment C has not been entered.

***Response to Arguments***

2. Applicant's arguments filed on April 8, 2002 have been fully considered but they are not persuasive.
3. Specifically, the majority of the applicant's arguments are drawn to the claims as the applicant proposed to amend them in proposed amendment C. However, since this amendment has not been entered for the reasons set forth in paragraph 1 above, the applicant's arguments regarding the proposed amendment are moot.

4. The applicant does argue that Echizen et al. do not teach a hollow cathode effect, despite the hollow shape, because the dielectric tube "103" makes the movement of the electrons perpendicular to the cathode surface impossible, resulting in a reduction of a high ion density. In response, the applicant has provided no evidence to support this point. In addition, the examiner notes that the applicant's reasoning only appears to be sound in a circumstance in which the dielectric tube takes up the entire film-forming space. This is clearly not the case in Echizen et al. (See, for example, Figures 1 – 4 and corresponding descriptions). Therefore, the electrons in Echizen et al. would have had sufficient room to move perpendicular to the cathode surface and produce a high number of charge carriers, thereby providing a hollow-cathode effect as claimed by the applicant. Also, please note applicant's specification on page 3, lines 11 – 13, in which the applicant describes a "hollow-cathode discharge" according to their invention to also include a discharge in the transition region between hollow-cathode discharge and normal discharge. This indicates that the applicant has not intended to limit their claims to a purely "hollow-cathode discharge", further supporting the examiner's position regarding the Echizen et al. reference.

### ***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is

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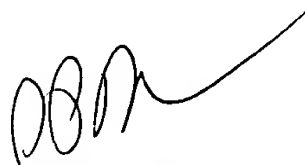
(703) 308-7557. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.

6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.
7. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Wesley D Markham  
Examiner  
Art Unit 1762

WDM

WDM  
April 15, 2002



**SHRIVE P. BECK**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 1700**